THE PLANT DISEASE BULLETIN

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BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

PLANT DISEASE SURVEY

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August 1, 1918.

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BEAN

Anthracnose caused by Colletotrichum lindemuthianum.

New Jersey: (Cook) Less than usual.

New York: (Burkholder, July 1) Has not appeared to any extent as yet.

Tennessee: (Essary) Prevalent in all bean sections and in gardens everywhere. It has not done the damage noted in previous seasons. First observed at Knoxville early in June. Most noticeable on pods. Dry weather in most parts of the state seems to have held it in check.

West Virginia: (Giddings) A considerable amount of injury has evidently been caused. Many plants were killed by this disease before or soon after they came up. Stalks most affected, little injury to the pods.

Bacterial Blight caused by Bacterium phaseoli.

New York: (Burkholder, July 1) Rather general and has spotted or killed many of the first leaves of the plants.

Oregon: (Owens) Disease is suspected in Hood River County for early in July some specimens that were apparently affected with this disease were sent in from that locality.

South Carolina: (Seal) Reported from trucking sections, but not severe.

Tennessee: (Essary) Disease observed at Knoxville early in June. It has caused no serious loss generally, but in some fields it has been destructive.

West Virginia: (Giddings) Evidence seen on pods and leaves in a few localities.

Mosaic (Cause undetermined).

Oregon: (Owens) "Observed in Lane and Benton Counties. At one place in Lane County forty acres of beans were inspected and found to be badly diseased. Ten acres of the forty showed approximately 100% mosaic, the remainder ranged from a trace to 50% or more. The ten acres most severely affected were on light sandy soil. This shaded off into a heavier and less sandy soil. The proportion of mosaic seemed to vary directly with the variation in the soil."

Root Rot caused by Various Organisms.

Michigan: (Coons) Root rot common where seed that was moldy was planted. Many fields plowed up in Eaton County on account of this and maggot.

New York: (Burkholder) Black root rot caused by Thielavia basicola is occurring in a few localities. Rhizoctonia is general but the injury is slight. Dry root rot caused by Fusarium martii phaseoli is found in over 50% of the fields.

South Carolina: (Seal) Fusarium root rots common over the state.

CABBAGE

Soft Rot probably caused by Bacillus carotovorus.

Mississippi: (Market inspection at Pittsburgh, 190 crates, June 29.) Ten percent of heads completely decayed, one-third of heads partially decayed.

South Carolina: (Market inspection at Atlanta, 2 cars, June 3.) An average of 4 heads per crate found affected with slimy decay in spots 3 to 5 inches in diameter and affecting 3 to 5 outer leaves.

Tennessee: (Market inspection at Indianapolis, 1 car, June 25.) Twenty percent of heads required trimming of 2 to 5 outer leaves to remove decay; 15% required trimming of 6 to 10 outer leaves; 10% showed core rot extending 1 to 2 inches into stem. An occasional head entirely decayed.

CANTALOUPE

Reports on the occurrence of diseases received from Arkansas, Virginia, Texas, Alabama, Oklahoma and Florida indicate that the cantaloupe crop this year has been quite free from diseases. In Virginia bacterial wilt was reported as doing considerable damage in some of the commercial fields on June 28. Report on the occurrence of Fusarium wilt has also been received from Mississippi.

Anthracnose caused by Colletotrichum lagenarium.

Georgia: (Market inspection at Chicago, 1 car, June 26.) Forty percent infection in car of honey-dew melons, 20% of which covered half of affected melon, the rest in early stages.

CUCUMBER

Soft Rot (Bacterial).

Maryland: (Market inspection at Pittsburgh, 1 car, June 28.) Complete bacterial decay showing in 20% of stock; three-fourths of balance of stock showing numerous bacterial spots from one-eighth to one-half inch in diameter.

South Carolina: (Market inspection at Pittsburgh, 1 car, June 24.) Bacterial soft rot ranging from practically none to 25%, average 12%. About one-fourth of balance of stock with numerous small bacterial spots.

LETTUCE

Drop caused by Sclerotinia libertiana.

Massachusetts: (Osmun, July 1) Was severe in greenhouses during the winter and early spring. As high as 50% of the crop was ruined in a few houses. One house was practically a total failure. The average loss was perhaps from 8 to 10%. In a few instances the outdoor crop has been severely injured, but the total loss will not be over 2%.

Pennsylvania: (Orton, July 1.) From 30 to 60% loss in eastern trucking sections, especially around Philadelphia.

Downy Mildew caused by Bremia lactucae.

New York: (Dye) Less common than last season, though as high as 83% has been found. Not important.

Pennsylvania: (Orton) More or less prevalent but not destructive.

Soft Rot probably caused by Bacillus carotovorus.

Pennsylvania: (Market inspection at Philadelphia, 1 car, July 23.) Slimy soft rot affecting 5 to 20 outer leaves of 69% of heads.

Other Diseases.

Marssonia perforans has developed extensively in two fields in New York according to H. W. Dye. Fifteen to seventy-five percent infection was observed in these two cases.

Firing, probably bacterial, was reported as causing a loss of 20% in Allegheny County, Pennsylvania, and has been noted on certain varieties in Philadelphia County according to the report of C. R. Orton.

Rhizoctonia in New York is causing far less loss than last season and up to July 1 was not of much economic importance, however, as high as 15 to 18% of the heads in three fields where it has become serious have been rendered unsalable. In most fields the actual loss is small.

The Rio Grande disease was noted by J. C. Walker and M. W. Gardner in the Chicago Market Gardens where it occurred in slight amounts locally.

LEMON

Blue Mold caused by Penicillium sp.

California: (Market inspection at Pittsburgh, 2 cars, June 28.) One car contained 10% of stock showing blue mold; the other car running from 10 to 16%.

OATS

Smut caused by Ustilago avenae and U. levis.

Arkansas: (Elliott) About 5 to 20% loss on untreated oats. Treatment has given almost complete control. Campaign being carried on.

Florida: (Stevens) Little data regarding prevalence of disease. Seed treatment not commonly practiced and no propaganda along this line has yet been carried out.

Georgia: (Berry) In occasional untreated fields the loss ran as high as 75% but it is impossible to give an estimate of loss for the state since it involves the question of how many farmers treat their seed. Much good was accomplished by the campaign carried on last fall. Where seed grain was treated the amount of smut was negligible. The past season has been favorable for the development of smut.

Louisiana: (Edgerton) Common in the northern part of the state; not much in southern Louisiana. Actual loss probably small.

Missouri: (Reed) Disease has been very common. In many fields the damage has been 5 to 30%; often less however. Some localities are relatively free. Both loose and covered smut occur but loose smut is more prevalent. Seed treatment is not very widely practiced.

Nebraska: (Wilcox) Disease slight to moderate, occurring in amounts ranging from .5 to 30% in untreated fields.

New Jersey: (Cook) Ustilago avenae is present in every field examined. Loss averaging about 5%, in some cases higher and in some cases as low as 1%.

New Mexico: (Werkenthin) Percentage of affected heads from untreated seed ranges from 10 to 20%. According to report of county agents and others the disease is not especially serious this year on account of dry season. Seed treatment has been generally practiced in Dona Ana, San Miguel and Otero Counties. None of the native farmers in Bernalillo County treat the seed and according to reports received from Chaves County not much seed treatment is done.

South Carolina: (Seal) These smuts were often found to be producing a loss from 5 to 20%. Very few farmers treated their seed last fall but it is expected that a number of them treat before planting this year.

Tennessee: (Essary) Disease generally prevalent, causing loss of nearly 10%. There was no general propaganda for seed treatment, but where it was practiced good results were shown.

Virginia: (Fromme) Reports indicate that the disease is not severe, probably not more than 3 to 4% on an average.

West Virginia: (Giddings) Disease causing moderate damage. Seed treatment propaganda has resulted in considerable benefit in Preston and Randolph Counties.

Leaf Rust caused by Puccinia coronata.

Florida: (Stevens) Leaf rust prevalent this year along with stem rust and are the most serious diseases of oats in the state. No data regarding losses.

Georgia: (Berry) Disease slow in developing, especially on rust-resistant strains. However, by the time the grain was cut many plants showed 100% infection.

Louisiana: (Edgerton) Leaf rust worse than usual this year and has caused considerable loss.

Missouri: (Reed) Not common.

New Jersey: (Cook) Less severe than usual.

South Carolina: (Seal) Severe in some cases. Always present.

Tennessee: (Essary) Generally common and infection very severe in some sections.

Virginia: (Fromme) Disease common.

Stem Rust caused by Puccinia graminis.

Arkansas: (Elliott) Some stem rust but no loss resulted.

Florida: (Stevens) Disease widely prevalent in state. This and leaf rust are the most serious diseases in Florida. Together they are affecting from 1 to 50% of the plants in individual fields.

Georgia: (Berry) Stem rust occurred later than usual this year, as it occurred about the time the grain was ripening. Little damage was done therefore.

Louisiana: (Edgerton) No stem rust seen.

Missouri: (Reed) Only a very little stem rust reported.

Tennessee: (Essary) Only a very little damage has resulted from stem rust.

PEACH

Leaf Curl caused by Exoascus deformans.

Arkansas: (Elliott) Quite common; appeared about May 1. Some young orchards were destroyed by it.

Missouri: (Reed) Found abundantly in southwestern Missouri during the latter part of May. Peach trees badly winter injured and orchards neglected. No apparent effort to control curl.

New York: (Hesler) A recent survey of the peach counties of the state shows that leaf curl is far less prevalent this year than in 1917. Both sprayed and unsprayed trees showed only an occasional diseased leaf. Observations covered several varieties, many of which are most susceptible to curl.

South Carolina: (Seal) Disease exceptionally common this past spring, especially where winter spray was not applied. It caused no severe loss though diseased leaves were common on trees from March until June.

Tennessee: (Essary) No serious outbreak has been reported although it has been seen in some sections. It seems to have done but little damage.

Virginia: (Fromme) Very severe in southwestern Virginia, especially in Montgomery, Wythe and Botetourt Counties; also present but not severe in a number of other sections. It first appeared about May 6 at Blacksburg. Elberta and Carman were heavily affected to the extent of about 95% of the leaves, while Early Crawford was almost free from infection, there being only 5 to 10%.

Brown Rot caused by Sclerotinia cinerea.

Florida: (Market inspection at Chicago and Kansas City, 3 cars, June 24-28.) Brown rot in two cars bad, average infection 10%.

Georgia: (Market inspection at Boston, Chicago, Cleveland, Kansas City and Washington, 14 cars, June 24-July 2.) Average infection about 12%. In nearly all cars inspected the decay from brown rot was very much heavier in top layer of crates, in some cases running as high as 100%, the badly decayed peaches often covered with black mold.

Maryland: (Market inspection at Philadelphia, 1 car, June 28.) Ten percent infection, affected peaches covered with black mold.

South Carolina: (Seal) Exceedingly common. Made its first appearance on young twigs and leaves; loss ranged from 5 to 50% with an average of about 15%.

Tennessee: (Essary) Common in sections where there is a peach crop. Weather has been dry over most of the state and as a consequence there has been much less of the disease than in former years. Where spraying has been followed in commercial orchards there is very little of it.

Virginia: (Fromme) Heavy infection in Petersburg and Appomattox sections. First reported July 10 from Henry County.

Scab caused by Cladosporium carpophilum.

Florida: (Market inspection at Kansas City, 1 car, June 27.) About 4% of peaches showing scab, irregularly scattered throughout load.

Georgia: (Market inspection at Boston, 1 car, June 28.) Two percent infection.

Virginia: (Fromme) Very prevalent in some sections on unsprayed trees. Other sections report little or none, chiefly on early varieties. Apparently less than usual.

Winter Injury.

Arkansas: (Elliott) Very severe.

Michigan: (Coons) Winter killing very severe.

Missouri: (Reed) Peach trees badly injured by severe winter. All blossom buds killed and branches also injured.

Oklahoma: (Learn) Some winter injury is reported.

South Carolina: (Seal) Winter injury frequently found.

Tennessee: (Essary) Winter freezes killed a large part of the peach orchards in western Tennessee and no fruit at all set in that section. There is a good crop in eastern Tennessee and a fair crop in the middle section.

Virginia: (Fromme) Very severe in certain sections of the southwestern part of the state.

PEAR

Brown Rot caused by Sclerotinia cinerea.

Florida: (Market inspection at Philadelphia, 1 car, July 8.) One-fourth of pears decayed from brown rot.

POTATO

Late Blight caused by Phytophthora infestans.

New Jersey: (Cook; August 1.) Disease abundant in Monmouth and Mercer Counties with small outbreaks in the north. No disease found in the south. First appeared the latter part of June. It is at present being held in check by drought and is of only slight importance thus far.

New York: (Chupp, July 27.) The disease has been found in three different portions of the state. Specimens have been received from Tioga, Cayuga and Nassau (Long Island) Counties. The disease seems to be gradually increasing and if the muggy weather continues an epidemic similar to last year may develop.

Pennsylvania: (Orton) Reported from Chester and Fayette Counties in latter part of June.

Stem Blight caused by Phoma sp.

New York: (Whetzel) "A very striking disease of potato has been epidemic since the first of July on Long Island. Specimens and reports from other parts of the state indicate that it occurs also in the potato fields of Tioga County and probably in Erie County.

The diagnostic symptoms of the trouble are canker-like lesions in the cortex of the stem and branches, most numerous just at the surface of the ground but not uncommon farther up on the branches and main stem as well as on the portion of the stem under ground. The lesions are at first water-soaked, later they become reddish brown often with a white papery area in the center, and finally the brownish or black pycnidia of the Phoma develop in abundance most frequently on the white papery centers. The fungus also attacks the stolons of the plant, working down the stolons to the stem end of the tuber. Lesions appear around the stem end of the tuber, extending out often to an inch or more from the stolon base. The tuber lesions are dark brown (never black), extending only very slightly into the flesh. Thus far the Green Mountain type has shown most serious attacks. It has also been found on Cobblers.

The disease answers very well to that described by Prillieux and Delacroix (Bul. Myc. Soc. France 6: 178-179, 1890.) and the fungus may be that described by these authors, Phoma solanicola. It is hoped that observers in other states will look for this disease and report its occurrence together with specimens either to the Plant Disease Survey office in Washington or to H. H. Whetzel, Ithaca, N. Y."

Scab caused by Actinomyces chromogenus.

Arkansas: (Market inspection at Kansas City, 3 cars, June 24, 26.) Scab ranging from 3 to 19%, averaging 9%.

Louisiana: (Market inspection at Chicago and Kansas City, 3 cars, June 26-28.) Scab infection in the 3 cars 3, 4 and 5% respectively, most of the scab being deep.

Mississippi: (Market inspection at Chicago, 1 car, June 26.) Three percent bad scab.

Missouri: (Market inspection at Chicago and Minneapolis, 3 cars, June 18, 24.) In car inspected at Minneapolis scab was evident on 15 to 20% of stock. Inspection of 2 cars at Chicago revealed the presence of deep scab infection on 8 to 10% of tubers.

Oklahoma: (Market inspection at Kansas City, 2 cars, June 26.) Deep scab noted on 6% of contents of each car.

Rot caused by Fusarium sp.

Florida: (Market inspection at Pittsburgh, 1 car, June 25.) About 5% of potatoes one-fourth decayed from Fusarium rot.

Georgia: (Market inspection at Chicago, 1 car, June 25.) Red potatoes affected, less than 5%.

Louisiana: (Market inspection at Chicago and Pittsburgh, 2 cars, June 27, 28.) A slight amount of Fusarium tuber rot was found in car inspected at Chicago; 20% infection noted in car at Pittsburgh, the affected tubers being from one-fourth to half decayed.

Rots (Bacterial)

Alabama: (Market inspection at Indianapolis, 1 car, June 24.) Slimy soft rot present in varying amounts on Cobbler and Bliss Triumph potatoes, ranging from 2 to 20%.

Arkansas: (Market inspection at Chicago and Kansas City, 7 cars, June 24-28.) Slimy decay, probably caused by organisms of the Bacillus carotovorus type, was found in all cars inspected, averaging about 18%, one car inspected showing as high as 40% infection.

California: (Market inspection at Denver, 1 car, July 12.) Bacterial decay was found irregularly scattered throughout load, running as high as 25% in center of car, all sacks showing some decay.

Florida: (Market inspection at Atlanta, Cleveland and Pittsburgh, 2 cars and 19 barrels, May 23, June 25-26.) In car inspected at Atlanta 15% slimy soft rot was found, from 6 to 8% of potatoes in the 19 barrels inspected at Cleveland showing this decay, which was probably caused by organisms of the Bacillus carotovorus type. Five percent of contents of Pittsburgh car were entirely decayed from bacterial soft rot.

Georgia: (Market inspection at Atlanta and Chicago, 2 cars, June 11, 25.) Forty percent of tubers in car inspected at Atlanta were worthless from bacterial decay. A small amount of slimy soft rot was found in car at Chicago, this decay probably due to Bacillus carotovorus.

Louisiana: (Market inspection at Chicago, Cleveland, Kansas City and Omaha, 17 cars, June 24-28.) Average infection from slimy soft rot about 15%, some sacks in a few cars with 50 to 75% complete decay due to organisms of the Bacillus carotovorus type.

Mississippi: (Market inspection at Chicago and Indianapolis, 2 cars, June 25, 26.) Decay ranging from 7 to 20%, probably due to Bacillus carotovorus.

Missouri: (Market inspection at Chicago, 1 car, June 24.) Slimy soft rot running from 3 to 50% but averaging about 3 to 4%.

North Carolina: (Market inspection at Pittsburgh, 1 car, June 29.) Bacterial decay following late blight observed in 6% of tubers, half of this being complete decay and half affecting less than one-fourth of the surface of tuber.

Oklahoma: (Market inspection at Kansas City, 2 cars, June 26.) Each car showing 15% decay, probably due to organisms of the Bacillus carotovorus type, all of this decay being very severe.

Texas: (Market inspection at Chicago, Cleveland, Indianapolis and Kansas City, 6 cars, June 26-29.) Average decay 20%, probably due to Bacillus carotovorus.

RYE

Smut caused by Urocystis occulta.

Illinois: (Anderson) Smut appears to be very generally distributed throughout the state where rye is grown. It causes a loss of less than 1%, probably not over .5%.

Minnesota: (Bisby) Reports of occurrence have been received from Sherburne, Wadena and Ramsey Counties June 1 to July 1.

Missouri: (Reed) Disease found at Mt. Grove, Poplar Bluff, Benton and Columbia. Occurs in occasional field to the extent of 5 to 10%.

Ohio: (Selby) Smut has been freely collected at Wooster; but no data secured on the percentage of infection, probably not more than 1 to 2%. It is thought to be slightly more prevalent than in 1917.

Wisconsin: (Vaughan) Limited to local fields. Observed in nine different counties this year.

Ergot caused by Claviceps purpurea.

Connecticut: (Clinton) More complaints than usual of ergot, but less than 1% in all cases under observation.

Illinois and Indiana: (Anderson, July 5.) "Observations have been made on the occurrence of ergot in the vicinity of Lafayette, Ladoga and Crawfordsville, Indiana, and Urbana, Champaign, Springfield, and Rantoul, Illinois. Reports have also been received from other places in the latter state. Everywhere I have been in Indiana and Illinois I have found ergot running from 2 to 10% in rye fields. In fields where rye has been mixed with wheat and where sometimes 1/10 of the field is rye the ergotted heads run very high. In one field I found 90% of the heads having ergot. In two timothy fields

I also found 90% of the volunteer rye ergotized. It seems well to call attention to the unusual prevalence of ergot at this time on account of the danger of stock poisoning. For a number of years I have watched ergot about Ladoga, Indiana, and each summer have had difficulty in getting sufficient material for class use. I know therefore that the condition this year is very unusual. One remarkable thing is the greater amount of infection in the edge of the field than in the central portion. Twenty percent as compared to 5% is the usual condition.

About Springfield, Illinois, we have found heads of wheat with ergot rather abundant, and about Urbana and Champaign Agrostis alba has been found very heavily affected."

Iowa: (Melhus) Very common and general.

Minnesota: (Bisby) Collected at University Farm, St. Paul, June 25.

Missouri: (Reed) Reported from several different places in the state but as a rule only a few heads infected.

Nebraska: (Wilcox) Ergot reports received from eight counties indicate disease is of very slight importance. In one field in Washington County it was very severe.

Ohio: (Selby) Disease has been reported as unusually prevalent, especially in the western part of the state.

Oklahoma: (Learn) Disease present in slight amounts only.

Virginia: (Fromme) Ergot rare.

West Virginia: (Giddings) Ergot reported but none has been received.

Wisconsin: (Vaughan) Abundant in Marquette, Green Lake and western part of Fond du Lac Counties, where 2 to 5% of the heads show from 1 to 5 sclerotia each. Slight amount in other rye sections.

Leaf Rust caused by Puccinia dispersa.

Connecticut: (Clinton) Common, often 40 to 50% infection on leaves. Damage done is perhaps not great.

Georgia: (Berry) Infection occurred late in the season, about May 15, and developed rapidly, attacking blade, sheath and stem. No doubt caused some damage after attack on stem.

Illinois: (Anderson) The infection of leaf rust has been unusually heavy this year and seems to have done some damage. It is hard to estimate the loss from this rust. Found everywhere rye is grown.

Kansas: (Melchers) Small amount in most fields.

Missouri: (Reed) Very common in state. In Poplar Bluff and New Madrid a very high percentage of infection is reported.

Nebraska: (Wilcox) Leaf rust has rarely affected over 5% of the leaf area of not more than 15% of the plants. In one field in Howard County it was very severe, probably 40% of the leaf area being affected. Yet even in this case the crop certainly was not much reduced.

Ohio: (Selby) Considerable leaf rust reported by field men.

Oklahoma: (Learn) Disease has been observed on the college farm.

Tennessee: (Essary) Disease generally severe on early sown rye.

Virginia: (Fromme) Common.

Wisconsin: (Vaughan) General in slight amount, not apparently destructive.

Stem Rust caused by Puccinia graminis.

Connecticut: (Clinton) Late in appearing on stems. Rarely seen.

Georgia: (Berry) No stem rust reported.

Missouri: (Reed) Reported from several different places, but not serious.

Ohio: (Selby) Some stem rust reported by field agents.

Wisconsin: (Vaughan) Severe in local cases, adjacent to infected barberries. Very little damage in state as a whole. Rye is being cut in the southern part of the state.

Anthracnose caused by Colletotrichum cereale.

Minnesota: (Bisby) Considerable damage in Washington and Lincoln Counties.

Missouri: (Reed) Reported from a number of different places. In many fields the damage will be 3 to 5%. In one large field at Fayette over 50% damage is estimated.

Oklahoma: (Learn) This disease is reported as the most serious rye disease. In one field it caused a loss of 50 to 60% of the crop.

Tennessee: (Essary) Severe in some sections.

Virginia: (Fromme) Common and causing the injury of possibly 3 to 5%.

Other Diseases.

Connecticut: (Clinton) "A mysterious trouble causing premature death of occasional stools in field has been noted. Seed formation has been prevented. It is thought that the trouble is caused by a fungus in the stem."

Massachusetts: (Osmun) Downy mildew caused by Erysiphe graminis is doing considerable damage. At least 50% of the blades are affected in some fields.

North Dakota: (Bolley) "In many fields of winter rye a large percentage of heads have failed to fill. Careful study of these heads convinced the writer that the damage is due to late frost while the heads were beginning to form in the sheath. There is going to be large damage of winter rye from this cause, particularly in the northern and western part of the state where rye shot up early due to moisture."

STRAWBERRY

Rot caused by Rhizopus sp.

Kentucky: (Market inspection at Pittsburgh, 1 car, May 27.) Black mold present on from 25 to 75% of berries, some crates so covered with mold that berries could not be seen.

Missouri: (Market inspection at Chicago, 1 car, May 27.) Fifteen percent of berries with leaky decay appearing in spots, only an occasional berry destroyed.

North Carolina: (Market inspection at Pittsburgh, 1 car, May 3.) All degrees of leaky decay found on 55% of berries.

Gray Mold caused by Botrytis sp.

Kentucky: (Market inspection at Chicago, 1 car, May 28.) From 10 to 30% gray mold present.

TOMATO

Fusarium Wilt caused by Fusarium lycopersici.

Alabama: (Peltier) Owing to the dry weather the past two months wilt has been more destructive than usual. Reported from all localities in the state. Resistant variety developed by Pritchard is holding finely and looks very promising.

Mississippi: (Beal) General over entire state and is the principal fungous disease affecting the crop. It has been noticed in almost every garden or field visited and observed from the train in almost every village where tomatoes were seen. The damage seems to run from 10 to 75%. At Hattiesburg on June 6 it was observed in every field visited, causing a loss of 10 to 50% and in some cases 75% of the plants were infected. Many of them had mature fruits however. At Gulfport on July 7 the disease was found general, causing a loss of 20 to 30%. It was also very general in the vi-

cinity of Columbia on June 8, where the damage runs as high as 50%. At Brookhaven and Crystal Springs however, the disease is not doing as much damage as might be expected. All varieties seem to be affected about equally.

South Carolina: (Seal) Reported several times but apparently causing no serious loss.

Texas: (Taubenhaus) The loss is estimated at about 10% of the crop.

Blossom End Rot (Non-parasitic).

Alabama: (Peltier) Very bad at Auburn and causing considerable loss owing to extremely dry weather of past two months.

Florida: (Stevens) Most of the tomatoes are dying, evidently owing to too sudden change from dry to wet weather.

Mississippi: (Beal) At Crystal Springs, the principal tomato section of the state, shippers and farmers estimate a loss from this disease of 30%, which is believed to be conservative. The weather conditions have been almost ideal for the crop and it is difficult to explain why this condition should occur in fields of tomatoes grown on clay loam, fertilized last year with stable manure, given good cultivation, staked and pruned but still showing 80 to 85% infection. Crops grown under different cultural and fertilization methods are about equally affected.

(Market inspection at Baltimore, 1 car, June 27.) Twelve percent infection from early stage of blossom end rot.

Texas: (Taubenhaus) Disease second in importance to blossom drop.

(Market inspection at Boston, 1 car, June 29.) Blossom end rot infection about 10%.

Leaf Spot caused by Septoria lycopersici.

Mississippi: (Beal) Found on every place visited, but damage unimportant. Limited in most cases to lower leaves.

New Jersey: (Massey) Disease common. In one field in the vicinity of Linwood the disease was severe, affecting every plant. Some defoliation had already taken place on June 17.

Virginia: (Clark, U.S.D.A., July 23) At this date the disease is getting well under way in most fields in the vicinity of Salem, Roanoke County. In one small field of about three acres, early crop, the yield has been reduced remarkably after one good picking of fruit.

(Stahl) Disease just beginning to show in some plots in the vicinity of Buchanan. In other fields it is well under way.

Early Blight caused by Alternaria solani.

Florida: (Market inspection at Atlanta and Fort Worth, 2 cars, May 16.) Fifty percent of tomatoes with 3 to 5 bullhead spots in car inspected at Atlanta 13% infection in the other car, 10% of which was bad, 3% slight.

Rot caused by Phoma destructiva.

Florida: (Market inspection at Fort Worth, 1 car, May 16.) Seventeen percent infection was noted of which 10% was severe, 7% slight.

Tennessee: (Market inspection at Denver, 1 car, July 18.) Phoma rot 5%.

Watery Soft Rot caused by Fusarium sp.

Texas: (Market inspection at Pittsburgh, 11 cars, June 22-29.) This watery decay was present in most cars, varying from 10 to 20%, average 15%, in nearly all cases the affected tomatoes being completely decayed.

Other Diseases.

In Texas Taubenhaus reports that the worst tomato trouble is blossom drop. Varieties producing very small fruits are immune.

WATERMELON

Stem End Rot caused by Diplodia sp.

Florida: (Market inspection at Minneapolis, 1 car, June 28.) From 10 to 15% severe stem end rot present.

Georgia: (Market inspection at Boston, Chicago, Denver, New York and Oklahoma City, 6 cars, June 25-July 13.) Stem end rot present in varying amounts, ranging from 1 to 75%, in one car 75% of contents being worthless from this trouble. Average infection for the 6 cars 33%.

Indiana: (Market inspection at Philadelphia, 1 car, July 22.) Eleven percent of melons with stem end rot affecting from one end to half of melon.

Ohio: (Market inspection at Kansas City, 1 car, June 25.) Infection 6%.

Texas: (Market inspection at Denver, 2 cars, July 5 & 8.) From 8 to 10% stem end rot found in one car, 15 to 20% in the other car, all of which was well-developed.

Anthracnose caused by Colletotrichum lagenarium.

Georgia: (Market inspection at Boston and New York, 2 cars, June 25 & 27.) Infection for the two cars 5 and 10% respectively.

Indiana: (Market inspection at Philadelphia, 1 car, July 22.) Anthracnose covering one-third of melons with deep brown spots on 7% of stock, 2 to 5 of these spots being very soft and penetrating entire rind.

WHEAT

Bunt caused by Tilletia laevis and T. tritici.

Arkansas: (Elliott) Bunt in some sections. Largely controlled by formaldehyde treatment.

Iowa: (Melhus) General and nominal in quantity except in spots. Usually only a trace but cases have been found where 25% disease occurred.

Kansas: (Melchers) Occurs quite commonly throughout the state. This year it does not seem to be quite as prevalent as usual. The loss will probably average not more than 1%. A large number of county agents are cooperating with the Agricultural College in giving seed treatment demonstrations.

Missouri: (Reed) Bunt has been found to be serious in a number of different localities. Some fields show from 5 to 25% infection; occasionally fields show 30 to 50% disease. Usually there is less than 1% and many fields are quite free. Some seed treatment is practiced. About 100 samples were carefully examined to determine the species of smut involved. Only a single head of Tilletia tritici was found, the remainder were all T. laevis.

Nebraska: (Wilcox) Reports and inspection indicate losses from 5 to 41% in cases where seed disinfection is not practiced. In one field in Seward County 41% infection occurred by actual count. A similar high percentage is reported from Dixon and Chase Counties. Winter wheat as a rule is less severely injured than spring wheat. Several people have for the first time reported bunt in Turkey Red variety. The Marquis is more resistant than bearded varieties.

New Jersey: (Cook) "Field studies within the past few days have brought to light some of this disease, but I am inclined to think that it is comparatively rare."

Ohio: (Selby) Extremely local in occurrence though distinctly more prevalent in western and northwestern counties. Total loss for Ohio probably less than 1%, ranging from none at all to as high as 80% in certain sections of infection as in Defiance County. Seed treatment demonstrations are being carried on by the Extension Service of the Ohio State University in cooperation with the Department of Agriculture.

South Carolina: (Seal) There have been a few cases reported of severe losses from this disease, but as a whole 3% seems to be a fair average esti-

mate for the state. Treatment with copper sulphate is quite common.

Loose Smut caused by Ustilago tritici.

Arkansas: (Elliott) General and in some cases severe.

Illinois: (Anderson) Present throughout the state, causing unusually heavy losses. The average loss may be about 3%. Sometimes fields are found with as high as 10%. Only a slight amount of work being done to control the disease.

Iowa: (Melhus) General in spring and winter wheat. Not serious, 0 to 5%.

Kansas: (Melchers) Occurs commonly throughout state, being more widely spread than bunt. Will probably cause greater loss this year than any other disease. Average loss from 1.5 to 3%.

Missouri: (Reed) Generally distributed over state, usually 1% or less. Five to 10% has been found in certain fields in Neosha, New Madrid and Kennett.

Nebraska: (Wilcox) Reduction in yield due to loose smut will not exceed 1 to 2% in general. In Howard County in one field the yield was reduced fully 10%.

New Jersey: (Cook) Rather general and occurring in considerable amounts.

Ohio: (Selby) Generally prevalent, probably slightly more than in 1917; while widely observed is not a major wheat disease. Percentage of loss varies from 0 to 6 or 8%, with an average of about 1%. The Department of Agronomy of Ohio Station treated seed of wheat varieties carefully in the fall of 1917 with the modified hot water treatment and as a result a crop entirely free from loose smut was secured this year.

South Carolina: (Seal) Found in practically every field, ranging from 2 to 25% infection. Five percent a fair estimate of loss.

Wisconsin: (Vaughan) A trace in most fields, with 4 to 5% in a few scattered fields.

Scab caused by Fusarium culmorum.

Illinois: (Anderson) Unusually severe. Observed at Decatur June 11, but it had evidently been present sometime previous to that date. It is one of the most serious if not the most serious disease of wheat in Illinois. I judge the loss to be about 5%. Practically no educational work is being done on this subject.

Iowa: (Melhus) General and very severe. More common on spring than winter wheat. Most severe on Marquis, less on Turkey Red.

Kansas: (Melchers) No scab reported up to July 18.

Minnesota: (Bisby) Scab has not been reported as yet.

Missouri: (Reed) Generally distributed, usually less than 1% infection but occasionally damage is 2 to 5%.

New Jersey: (Cook) The most prevalent wheat disease is scab which is very abundant.

Ohio: (Selby) Very prevalent in the southern and western part of the state according to Stover. It is found in diminished amounts to the northward. Prevalence greater than in 1917 for southern half of state but decidedly less in the northern portion. Percentage of affected heads run from less than 1% to about 30%. Damage will probably average 3 to 5% of crop. First collected in Athens County June 8. At Wooster there was a very marked reduction of the disease where seed was treated for loose smut with the modified hot water method. It is thought that showery weather during blossoming and subsequent period is favorable.

South Carolina: (Seal) Reported as causing serious losses in a few cases but in general seems to be of little importance.

Wisconsin: (Vaughan) Trace of disease observed in Waushara County July 10.

Leaf Rust caused by Puccinia triticina.

Illinois: (Anderson) Universally present through the state. It appeared fairly late and was not severe in most fields examined. Along the Mississippi River in the low lands it appeared to be doing some damage.

Kansas: (Melchers) Disease common but not as severe as some years. No reports of apparent damage. Loss will probably be less than 1%.

Minnesota: (Bisby) From Hennepin County 10% infection is reported.

Missouri: (Reed) Very common, especially in the southeastern section. Probably not very serious.

Nebraska: (Wilcox) In general the disease varied from slight to moderate. In certain fields it was reported as severe, though with but slight reduction in yield. In Nance and Holt Counties 95% of the affected plants were reported with 65% of the leaf area involved.

Ohio: (Selby) Disease apparently widely spread but causing a relatively small amount of damage.

South Carolina: (Seal) Common in all fields of wheat. Causing serious losses in some.

Wisconsin: (Vaughan) Quite abundant. Damage probably small. Disease spread during damp weather in June but recent dry weather has served to check it.

Stem Rust caused by Puccinia graminis.

Illinois: (Anderson) Has been found generally throughout the state on winter wheat, but so far as observations have gone it did not appear early enough to cause any damage.

Nebraska: (Wilcox) In general stem rust may be said to be slight to moderate in severity. In Dixon County the county agent reports all varieties of wheat severely infected and in Dodge County fields have been seen in which the yield was certainly reduced from 20 to 25%, but most of these fields were in the low lands of the Platte River Valley. Early conditions favored a stem rust epidemic but the subsequent drought checked the disease.

Wisconsin: (Vaughan) Abundant in the vicinity of barberry in Waupaca and Waushara Counties. Scattering in most fields.

Black Chaff.

Iowa: (Melhus) General in northern half of state where it is very prevalent.

Kansas: (Melchers) Only a trace of the disease in Kansas. Apparently no danger this year.

Missouri: (Reed) Common in the northwestern section of the state, especially on Turkey Red.

Nebraska: (Wilcox) "Disease has been reported or actucally seen in Gage, Lancaster, Dodge and Clay Counties. It appeared in a most severe form on one farm in Gage County where practically 100% of the plants were attacked and the yield was reduced possibly as much as 25%. In this case shriveled kernels were conspicuous though this part may have been due to extreme drought. It is evident that this disease is on the increase in Nebraska and one of which we must take account."

Anthracnose caused by Colletotrichum cereale.

Ohio: (Selby) Unusually prevalent over state. Epidemic in northeastern Ohio. Collected in every county visited by the writer. Percentage of diseased plants varies from 2 to 3% to 26% by actual count, probably damage in the state is about 4%. In northern Ohio the losses caused by this disease exceeds that caused by scab. Common name "short stalk" might well be applied to this disease.

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